STATE OF CONNECTICUT
Regulation of Environmental Protection

Section 19-508-18. Control of Particulate Emissions

(a) Visible emissions.

(1) Visible emission restrictions for stationary sources.

(i) No person shall cause or permit the emission of visible air pollutants of a shade or density equal to or darker than that designated as No. 1 on the Ringelmann chart or 20 percent opacity.

(ii) A person may discharge air pollutants into the atmosphere from any source of emission for a period or periods aggregating not more than 5 minutes in any 60 minutes, provided that said air pollutants are of a shade or density not darker than No. 2 on the Ringelmann chart or 40 percent opacity.

(iii) Open burning conducted under provisions of section 19-508-17 shall not be subject to this subsection.

(2) Visible emission restrictions for mobile sources.

(i) No person shall cause or permit the emission of visible air pollutants from gasoline-powered mobile sources for longer than five (5) consecutive seconds.

(ii) No person shall cause or permit the emission of clearly visible air pollutants (comparable to a shade or density equal to or darker than No. 1 on the Ringelmann chart or 20 percent opacity) from diesel powered motor vehicles for more than ten (10) consecutive seconds, during which time the maximum shade or density of emissions shall be no darker than No. 2 on the Ringelmann chart or 40 percent opacity.

(3) Exceptions for uncombined water.

Where the presence of uncombined water, such as water vapor, is the only reason for the failure of an emission to meet the requirements of this regulation, then the provisions of this regulation shall not apply.

(4) The following shall be exempt from the requirements of subsection (a)(2):

(i) Antique automobiles over 30 years old;

(ii) Vehicles used exclusively for racing; and

(iii) Mobile sources in the process of being repaired.

(5) Emissions from stationary or idling mobile sources.

No mobile source engine shall be allowed to operate for more than three (3) consecutive minutes when the mobile source is not in motion except as follows:

(i) When a mobile source is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control;

(ii) When it is necessary to operate heating, cooling or auxiliary equipment installed on the mobile source when such equipment is necessary to accomplish the intended use of the mobile source;

(iii) To bring the mobile source to the manufacturer's recommended operating temperature;

(iv) When the outdoor temperature is below twenty (20) degrees Fahrenheit;

(v) When the mobile source is being repaired.

(6) Subsections (a)(2) and (a)(5) shall not apply to aircraft, locomotives operating on rails, vessels for transportation on water, lawnmowers, snowblowers, and other small home appliances.

(b) Fugitive dust.

(1) No person shall cause or permit any materials to be handled, transported, or stored; or a building, its appurtenances, or a road to be used, constructed, altered, repaired or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions shall be in accordance with good industrial practice as determined by the Commissioner and shall include, but not be limited to, the following:

(i) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land;

(ii) Application of asphalt, oil, water, suitable chemicals or coverage on materials stockpiles and other surfaces which can give rise to airborne dusts;

(iii) Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty materials. Adequate containment methods shall be employed during sandblasting or other similar operations;

(iv) Covering, at all times when in motion, open-bodied trucks and trains transporting materials likely to give rise to airborne dusts;

(v) The prompt removal of earth or other material from paved streets onto which earth or other material has been deposited by trucking or earth-moving equipment, erosion by water, or other means.

(2) Agricultural activities are exempt from the provisions of subsection (b)(1). However, agricultural practices such as tilling of land and application of fertilizers shall be conducted in such manner as to minimize dust from becoming airborne.

(3) No person shall cause or permit the discharge of visible emissions beyond the lot line of the property on which the emissions originate when:

(i) The emissions remain visible and exist near ground level outside the property boundaries; or

(ii) The emissions remain visible and impinge on a building or structure so the health, safety, or enjoyment of life of the public may be diminished.

(4) No particulate matter shall be emitted into the open air in such a manner as to cause a nuisance.

(c) Incineration.

(1) Definitions.

The following terms as used in subsections (c)(1) to (c)(6) inclusive shall have the following meanings:

(i) "Incinerator" means any device, apparatus, equipment or structure used for destroying, reducing or salvaging by fire any material or substance, including but not limited to, refuse, rubbish, garbage, trade waste, debris or scrap, or facilities for cremating human or animal remains. "Small incinerator" means an incinerator designed and used to burn wastes materials of types 0, 1, 2, and 3 only, in all capacities not exceeding two thousand pounds per hour of waste

material input. "Special incinerator" means an incinerator designed and used to burn pathological waste type 4 or trade waste types 5 and 6 of any burning capacity. Crematories are included in this category. "Large incinerator" means an incinerator owned or operated by any government or any person, firm or corporation, designed and used to burn waste materials generated by the public of any and all types, 0 to 6 inclusive, with a burning capacity in excess of two thousand pounds per hour of waste material input.

(ii) "New incinerator" means an incinerator which is a new source, as defined in Section 19-508-1(r).

(iii) "Existing incinerator" means any incinerator which is not a new source, as defined in Section 19-508-1(r).

(iv) "Flue-fed incinerators" means an incinerator provided with a single flue which serves as both the charging chute and the flue to transport products of combustion to the atmosphere.

(v) "Liquid particulates" means particles which have volume but are not of rigid shape and which upon collection tend to coalesce and create uniform homogeneous films upon the surface of the collecting media.

(vi) "Solid particulates" means particles of rigid shape and definite volume.

(vii) "Smoke" means and includes small gas-borne particles, excluding water vapor, arising from a process of combustion in sufficient number to be observable.

(viii) "Air pollution control equipment" means any device which prevents or controls the emission of any air contaminant.

(ix) "Type O waste" means trash, a mixture of highly combustible waste such as paper, cardboard, cartons, wood boxes and combustible floor sweepings, from commercial and industrial activities. The mixture may contain up to ten percent by weight of plastic bags, coated paper, laminated paper, treated corrugated cardboard, oily rags and plastic or rubber scraps. This type of waste contains approximately ten percent moisture and five percent incombustible solids and has a heating value of approximately eighty-five hundred BTUs per pound as fired.

(x) "Type 1 waste" means rubbish, a mixture of combustible waste such as paper, cardboard cartons, wood scrap, foliage and combustible floor sweepings from domestic, commercial and industrial activities. The mixture may contain up to

twenty percent by weight of restaurant or cafeteria waste, but contains little or no treated paper, plastic or rubber wastes. This type of waste contains approximately twenty-five percent moisture and ten percent incombustible solids and has a heating value of approximately sixty-five hundred BTU per pound as fired.

(xi) "Type 2 waste" means refuse, consisting of an approximately even mixture of rubbish and garbage by weight. This type of waste is common to apartment and residential occupancy, consisting of up to fifty percent moisture and approximately seven percent incombustible solids, and has a heating value of approximately forty-three hundred BTU per pound as fired.

(xii) "Type 3 waste" means garbage consisting of animal and vegetable wastes from restaurants, cafeterias, hotels, hospitals, markets and like installations. This type of waste contains up to seventy percent moisture and up to five percent incombustible solids and has a heating value of approximately twenty-five hundred BTU per pound as fired.

(xiii) "Type 4 waste" means human and animal remains, consisting of carcasses, organs and solid organic wastes from hospitals, laboratories, abattoirs, animal pounds and similar sources, consisting of up to eighty-five percent moisture and approximately five percent incombustible solids and having a heating value of approximately one thousand BTU per pound as fired.

(xiv) "Type 5 waste" means by-product waste, gaseous, liquid or semi-liquid, such as tar, paints, solvents, sludge, and fumes from industrial operations.

(xv) "Type 6 waste" means solid by-product waste, such as rubber, plastics, wood waste from industrial operations and all salvage operations.

(2) Flue-fed incinerators.

No person shall construct, install, use or cause to be used any new incinerator of the flue-fed type.

(3) Emission standards.

(i) Particulates.

No person shall construct, install, use or cause to be used any new incinerator which will result in particulate matter in the effluent in excess of 0.08 gr/S.C.F. (0.18 gm/NM^3) corrected to 12 percent CO_2 maximum 2-hour average. No person shall use or cause to be used any existing incinerator which will emit more

than four-tenths pound of particulates per one thousand pounds of flue gases adjusted to fifty percent excess air.

(ii) All incinerators must comply with subsection (a)(1).

(iii) Unburned waste and ash.

No person shall cause, suffer, allow or permit the emission of particulates of unburned waste or ash from any incinerator which are individually large enough to be discernible by the human eye.

(iv) Odors.

No person shall construct, install, use or cause to be used any incinerator which will result in violations of Section 19-508-23.

(4) Operations.

(i) Approved operating procedures and rated burning capacity of the incinerator shall be posted at a convenient place as near as practical to the point of operation.

(ii) No person shall use or cause to be used any incinerator unless all components connected, or attached to, or serving the incinerator which affect air pollution are functioning properly and are in use, in accordance with the permit to construct and the certificate or permit to operate.

(5) (i) Emission test shall be conducted at the maximum-rate burning capacity of the incinerator.

(ii) The burning capacity of an incinerator shall be the manufacturer's or designer's guaranteed maximum rate or such other rate as may be determined by the Commissioner in accordance with good engineering practices. In cases of conflict, the determination made by the Commissioner shall govern.

(iii) For the purposes of this regulation, the total of the capacities of all furnaces within one system shall be considered as the incinerator capacity.

(6) Exceptions.

The provisions of subsections (c)(1) to (c)(5) inclusive shall not apply to incinerators installed or used in dwellings containing six or fewer family units.

(7) None of these regulations shall be construed to permit the emission of hazardous materials defined and limited by the Commissioner.

(d) Fuel-burning equipment.

(1) No person shall cause or permit the emission from fuel-burning equipment of particulate matter in excess of the limitations listed in table 18-D-1 below.

Table 18-D-1

Pounds of Particulate Matter per Million BTU of Heat Input	*Type of Fuel*	*Type of Source*
0.10	All	Permit require under section 19-508-3 (except subsection (3)(g)(6))
0.14	Residual Oil	Required to register under section 19-508-2 or to receive a permit under 19-508-3(g)(6)
0.20	All except residual oil	All others

(2) For purposes of this section, the heat input value used shall be the actual firing rate of the fuel-burning equipment.

(3) Fuel-burning sources which, as of the effective date of these regulations, have particulate control equipment in place must maintain such control equipment in proper operation.

(e) Process industries-general.

(1) No person shall cause or permit the emission of particulate matter in any one hour from any source in excess of the amount shown in Table 3-1 below for the process weight rate allocated to such source, with the exception of sources specified in subsection (f).

Table 3-1

Process Weight Rate lbs./hr.	Emission Rate lbs./hr.	Process Weight Rate lbs./hr.	Emission Rate lbs./hr.
50	0.36	60,000	29.60
100	0.55	80,000	31.19
500	1.53	120,000	33.28
1,000	2.25	160,000	34.85
5,000	6.34	200,000	36.11
10,000	9.73	400,000	40.35
20,000	14.99	1,000,000	46.72

(2) Interpolation of the data in Table 3-1 for the process weight rates up to 60,000 lbs./hr. shall be accomplished by the use of the equation:

$E = 3.59\ P^{0.62}$ P equals to or less than 30 tons/hr.

and interpolation and extrapolation of the data for process weight rates in excess of 60,000 lbs/hr. shall be accomplished by the use of the equation:

$E = 17.31\ P^{0.16}$ P greater than 30 tons/hr.

Where:
E = Emission in pounds per hour.
P = Process weight rate in tons per hour.

(3) For the purpose of this regulation, process weight per hour is the total weight of all materials introduced into any specific process that may cause any emission of particulate matter. Solid fuels charged will be considered as part of the process weight, but liquid and gaseous fuels and combustion air will not. For a cyclical or batch operation, the process weight per hour will be derived by dividing the total process weight by the number of hours in one complete operation from the beginning of any given process to the completion thereof, excluding any time during which the equipment is idle. For a continuous operation, the process weight per hour will be derived by dividing the process weight for a typical period of time by the length of that period of time.

(4) Where the nature of any process or operation or the design of any equipment is such as to permit more than one interpretation of this regulation, the interpretation that results in the minimum value for allowable emission shall apply.

(5) For purposes of the regulation, the total process weight from all similar process units at a plant or premises shall be used for determining the maximum allowable emission or particulate matter that passes through a stack or stacks.

(6) For the purposes of this regulation, when any material undergoes a series of operations which are capable of emitting particulate matter and which employ any combination of machines, equipment, or other devices used for processing the material either continuously or in batches, the total process weight for the series of operations shall be the weight of materials introduced to the series as a whole. Any material which is the product of any operation in the series shall not be counted as part of the process weight for any other operation in the series.

(f) Process industries-specific.

(1) Emission standards (iron cupolas). No person shall cause or allow the operation of any iron foundry cupola unless such cupola is equipped with gas-cleaning devices and so operated as to remove ninety percent (90%) by weight of all particulate matter in the cupola discharge gases, or to release not more than one and seven-tenths (1.7) of a pound of particulate matter per ton of iron produced, whichever is more stringent. Gases, vapors and gas-entrained effluents from such cupolas shall be incinerated at a minimum temperature of 1300 degrees Fahrenheit for a period of not less than three-tenths of a second.

(2) Emission standards (hot mix asphalt plants). No persons shall cause or allow the emission of particulate matter from hot mix asphalt plants in excess of one tenth of a pound per ton of asphalt produced. In addition, the process must conform to subsection (b) of this regulation.

(3) Emission standards (foundry sand). No person shall cause or allow the operation of a foundry sand process unless such process conforms to subsection (b) of this regulation and is equipped with dust control facilities and so operated as to remove ninety percent (90%) of the particulate matter from the foundry sand process, or to emit not more than seventy-five hundredths (0.75) of a pound of particulate matter per ton of material cast.

(4) Emission standards (concrete batching). No person shall cause or allow the operation of a concrete batching process unless such process conforms to subsection (b) of this regulation and is equipped with fugitive dust control facilities with a collection efficiency of 90 percent or 0.02 pounds per cubic yard of concrete, whichever results in less emission.